Claims

[c1]   What is claimed is:

1.A method of detecting a data structure of data in an optical storage device, the method comprising:

(a) providing a first 8-bit register connected between an eight-to-fourteen modulator and a leading zero counter;

(b) storing the 8 least significant bits of data output from the eight-to-fourteen modulator in the first 8-bit register; and

(c) calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter.

[c2]   2.The method of claim 1 wherein step (c) further comprises:

detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

[c3]   3.The method of claim 1 further comprising:

(d) providing a second 8-bit register connected between the eight-to-fourteen modulator and a trailing zero counter;

(e) storing the 8 most significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and

(f) calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter.

[c4]   4. The method of claim 3 wherein step (f) further comprises:

detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

[c5]   5. The method of claim 1 further comprising:

(d) connecting the first 8-bit register between the eight-to-fourteen modulator and a trailing zero counter;

(e) storing the 8 most significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and

(f) calculating a number of trailing zeros stored in the first 8-bit register with the trailing zero counter.

[c6]   6. The method of claim 5 wherein step (f) further comprises:

detecting the number of trailing zeros of the most sig-

nificant bits stored in the first 8-bit register, if the most significant bits stored in the first 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the first 8-bit register.

[c7]   7.A method of detecting a data structure of data in an optical storage device, the method comprising:
(a) providing a second 8-bit register connected between an eight-to-fourteen modulator and a trailing zero counter;
(b) storing the 8 most significant bits of data output from the eight-to-fourteen modulator in the second 8-bit register; and
(c) calculating a number of trailing zeros stored in the second 8-bit register with the trailing zero counter.

[c8]   8.The method of claim 7 wherein step (c) further comprises:
detecting the number of trailing zeros of the most significant bits stored in the second 8-bit register, if the most significant bits stored in the second 8-bit register are zeros; and further detecting the number of trailing zeros of the least significant bits stored in the second 8-bit register.

[c9]   9. The method of claim 7 further comprising:
(d) providing a first 8-bit register connected between the

eight-to-fourteen modulator and a leading zero counter;

(e) storing the 8 least significant bits of the data output from the eight-to-fourteen modulator in the first 8-bit register; and

(f) calculating a number of leading zeros stored in the first 8-bit register with the leading zero counter.

[c10] 10. The method of claim 9 wherein step (f) further comprises:

detecting the number of leading zeros of the least significant bits stored in the first 8-bit register, if the least significant bits stored in the first 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the first 8-bit register.

[c11] 11. The method of claim 7 further comprising:

(d) connecting the second 8-bit register between the eight-to-fourteen modulator and a leading zero counter;

(e) storing the 8 least significant bits of the data output from the eight-to-fourteen modulator in the second 8-bit register; and

(f) calculating a number of leading zeros stored in the second 8-bit register with the leading zero counter.

[c12] 12. The method of claim 11 wherein step (f) further comprises:

detecting the number of leading zeros of the least sig-

nificant bits stored in the second 8-bit register, if the least significant bits stored in the second 8-bit register are zeros; and further detecting the number of leading zeros of the most significant bits stored in the second 8-bit register.